

CLAIMS

1. Procedure for the calculation of interests for entrustments of money (K) comprising the following steps:
  - memorization of quantities of money K indicative of the possible amounts of credit granted;
  - memorization of an additional remuneration M indicative of the requirements of the lender for granting the loan;
  - processing of an additional amount of money L indicative of the risk of loss borne by the lender; and
  - mathematical combination, according to a given formula, of the aforementioned quantity of money K, extra yield M and amount of money L, in order to obtain a quantity of money B that, asked of the borrower, allows the lender to obtain an average return of (K+M).
2. Procedure according to claim 1, characterized by the fact that the aforementioned combination is an addition of the quantity of money K with extra yield M and amount of money L.
3. Procedure according to claim 2, characterized by the fact that extra yield M and amount of money L are each multiplied with a term  $(1 - \lambda)$  representing the eventual applicable taxes, before being added.
4. Procedure according to claim 3, characterized by the fact that this processing step is composed by a trim function  $T(x; b, K, B, \gamma)$  weighted with a probability density function ( $f(x)$ ) of the cash flow of the borrower.
5. Procedure according to claim 4, characterized by the fact that the probability density function ( $f(x)$ ) is a continuous function, and the weighting is done with an integral through an integral equation.
6. Procedure according to claim 4, characterized by the fact that the probability density function ( $f(x)$ ) is a discrete function, and the weighting is done with a summation.

7. Procedure according to any of claims 4, 5, 6, characterized by the fact that said trim function  $T(x; b, K, B, \gamma)$  performs a comparison between the cash flow (X) generated by the borrower with threshold values.

8. Procedure according to claim 7, characterized by the fact that the said trim function  $T(x; b, K, B, \gamma)$  has four intervals: less than the minimum recoupment of money b, from b (included) to K, from K (included) to B, greater than B (included).

9. Procedure according to claim 8, characterized by the fact that said trim function  $T(x; b, K, B, \gamma)$  gives the following results:

- if x is less than b, the result is b
- if x is from b (included) to K, the result is x
- if x is from K (included) to B, K is subtracted from x, and the result is multiplied by (one minus lambda). K is added to the result
- if x is greater than B (included), K is subtracted from B, and the result is multiplied by  $(1 - \lambda)$ . K is added to the result.

10. Procedure according to any of claims 4 to 9, characterized by the fact that the term to be found, such as additional amount of money L, is made explicit through an analytical solution.

11. Procedure according to any of claims 4 to 9, characterized by the fact that the term to be found, such as additional amount of money L, is made explicit through numerical methods or with the aid of error functions.

12. Procedure according to any of claims 1 to 11, characterized by the fact that the extra yield M and additional amount of money L are expressed as a percentage of K, respectively extra interest rate  $i_M = M / K$  and additional interest rate  $i_L = L / K$ .

13. Procedure according to claim 12, characterized by the fact that extra interest rate  $i_M$  is given by the sum of risk-free rate  $i_F$  plus a mark-up  $i_M^*$  for the lender for accepting the increased variability of its future revenues.

14. Procedure according to any of claims 4 to 13, characterized by the fact that the procedure has a reiteration step for significant values of the input reiteration variables, including the amount of money K

15. Procedure according to claim 14, characterized by the fact that the output of the reiteration step is stored in a vector or list, or plotted on a graph that represents the total amount of money  $B(K, M, L, 0)$  for any significant value of the reiterative variables.

16. Device (100) for the calculation of interests for entrustments of money (K) comprising:

- a Memory Block (1) to store data from the user,
- a Reiteration Block (2) to repeat the procedure with all the combinations of values that are of interest to the operator,
- a Processing Block (18) to process quantity of money (K), extra yield (M), additional amount of money (L), and eventual taxes to be calculated ( $\lambda$ ), into a function  $B(K, M, L, \lambda)$  set by the user,
- an Equation-solving Block (3) to find the dependent variable sought, by making it analytically explicit, or with the aid of numerical methods, and
- Result-storing Procedure Block (4).

17. Device according to claim 16, characterized in that said Memory Block (1) comprises: a block of memory (11) to store quantities of money (K), a block of memory (12) to store extra yield (M), a block of memory (13) to store an additional amount of money (L), a block of memory (14) to store the minimum recoupment of money (b), a block of memory (15) to store a distribution function ( $f(x)$ ), a Working Memory block (16) of the Reiteration Block (2), a block of memory (17) to store the results of the process, a block of memory (181) to store the function (B), a block of memory (19) to store percentage of capital lent to be reimbursed ( $\alpha$ ) and applicable taxes ( $\gamma$ ).

18. Computer program comprising program codes means suitable to perform all the steps of any one of the preceding claims 1- 15.

19. Computer program according to claim 18, stored on a computer readable medium.